

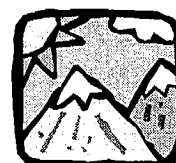
# 3. Determination of Geographic Zones

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### 3. Determination of Geographic Zones

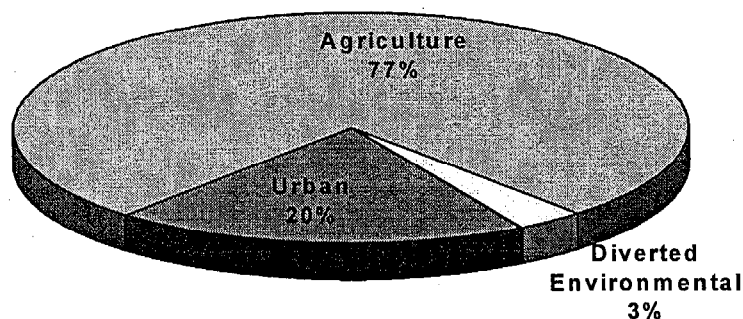
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To facilitate estimation of water use efficiency improvements, zones were created that group together geographic areas with similar characteristics. Specific zones were developed for each of the three water use sectors: urban, agricultural, and managed wetlands.

The CALFED Program's Programmatic EIS/EIR report also is separated into geographic zones to facilitate the presentation of information. Because the Programmatic EIS/EIR includes many more issues than water use efficiency, the water use efficiency zones were developed to fall in the geographic zones defined for the Programmatic EIS/EIR.

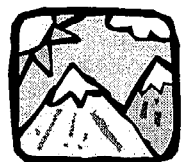
The pie-chart shown in Figure 3-1 indicates the relative magnitude of each of the three water use sectors. The following sections of this report attempt to provide estimates of conservation potential for each.

#### Statewide Distribution of Applied Water



*Figure 3-1. State-Wide Distribution of Applied Water Use*

Agriculture applies the greatest quantity of water because of the tremendous number of acres producing agricultural crops throughout California. Managed wetlands use is a small percentage of applied water, but overall environmental water use (including in-stream flows) is equivalent to agriculture.



Many efforts have been undertaken in the past to estimate the potential of water use efficiency improvements. Each effort has developed or presented information using a defined boundary. One of the more common boundary designations is DWR's Planning Subarea (PSA). Forty-four PSAs cover the entire State of California. Information at the PSA level also is readily available for use in this analysis and has been used for other investigative purposes, such as for Reclamation's October 1995 Least-Cost CVP Yield Increase Plan. For water use efficiency estimation purposes, grouping the PSAs into common zones was believed to provide the appropriate level of detail for a programmatic-level analysis. PSAs have been grouped into the zones described below for each of the three water use categories.

### 3.1 AGRICULTURAL ZONES

The agricultural approach to water use efficiency is focused on identifying and implementing improvements in local water use management and efficiency. This focus includes conservation of losses and changes in local management to gain multiple benefits from existing water supplies. Major differences in the potential resulting from efficiency improvements exist among regions of the state. For instance, conservation of "lost" water typically only can be achieved where water flows to salt sinks or unusable bodies of groundwater, which can occur in areas that export water from the Delta. Conservation potential would then further depend on soil, crop, climate, and other site-specific characteristics. On the other hand, changes in local water use management to possibly achieve a secondary ecosystem benefit are more apt to occur in areas that directly divert water from natural streams and rivers. Because of these differences, it is appropriate to develop estimates that are locally specific. However, although differences exist, existing information limits the understanding of local variations. Therefore, the following grouping of PSAs was established to group areas with regional similarities. PSAs are listed beneath each zone designation. Figure 3-2 represents a graphical view of the agricultural zones.

By inspection, not all PSAs are included in the agricultural zones presented. PSAs not included were considered to have limited agricultural activity or were determined to be outside the CALFED solution area. For instance, the Northern PSA under the Central Coast Region has been included because of SWP agricultural deliveries to the southern Santa Clara Valley. The Southern PSA under the same region is not included because agricultural water supplies do not originate from the Delta. Areas of the Imperial Valley have been included because potential conservation savings could be used to offset existing or future Delta demands of the South Coast Region.

PSAs included under each zone were assumed to represent the majority of the agricultural production areas. This assumption is believed to provide the necessary level of detail for determination of potential impacts at the programmatic level.

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## AGRICULTURAL ZONES

### *Zone AG1*

#### **Sacramento River Region**

- Northwest Valley
- Northeast Valley
- Central Basin West
- Central Basin East

### *Zone AG2*

#### **Delta Region**

- Delta Service Area (Sacramento **HR** *[[author: what is "HR"?]]*)
- Delta Service Area (San Joaquin **HR**)

### *Zone AG3*

#### **Westside San Joaquin River Region**

- Valley West Side

### *Zone AG4*

#### **Eastside San Joaquin River Region**

- Eastern Valley Floor
- Valley East Side

### *Zone AG5*

#### **Tulare Lake Region**

- San Luis West Side
- Kings-Kaweah-Tule Rivers
- Kern Valley Floor

### *Zone AG6*

#### **San Francisco Bay Region**

- North Bay
- South Bay

### *Zone AG7*

#### **Central Coast Region**

- Northern (portion connected to San Luis Reservoir)

### *Zone AG8*

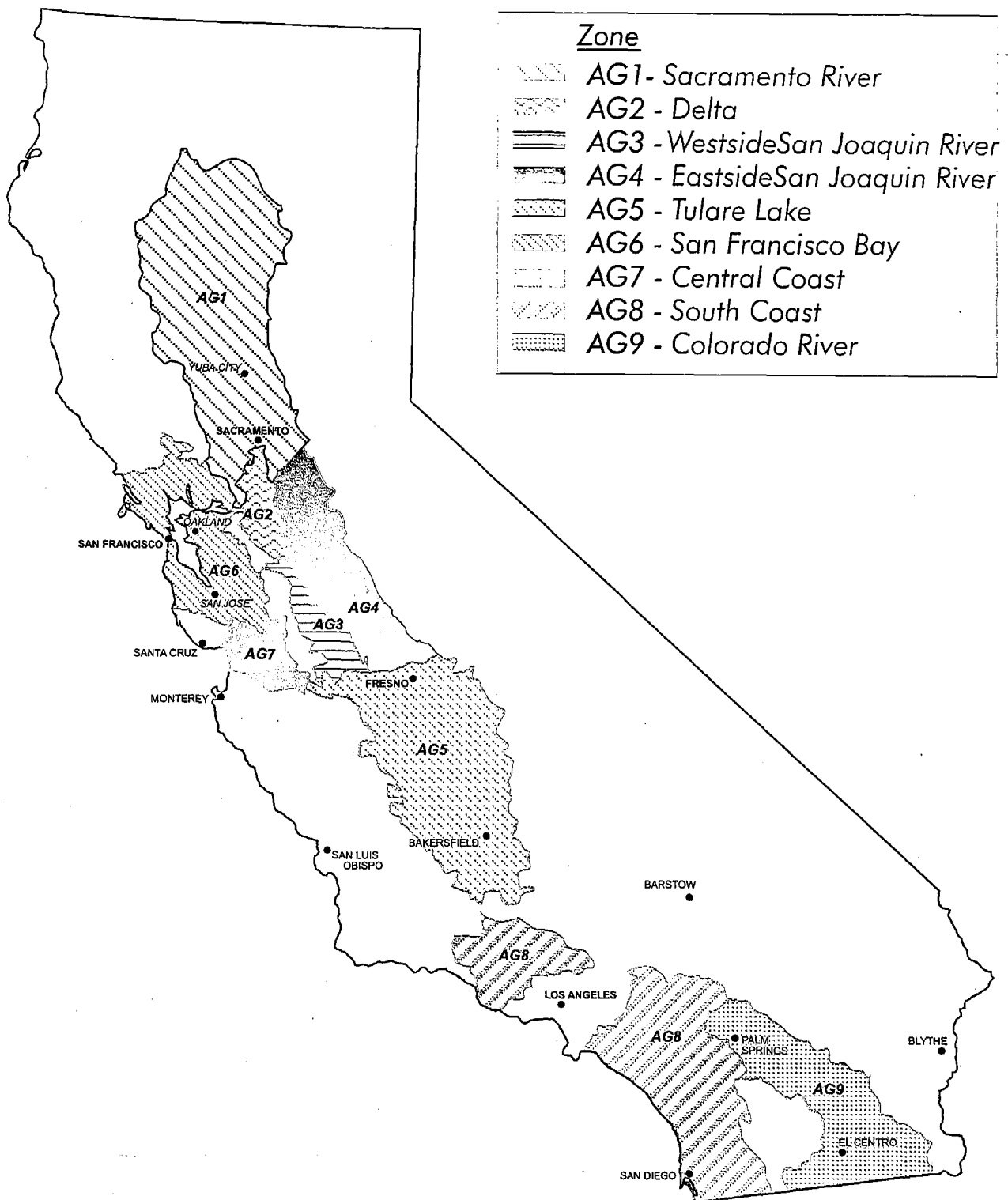
#### **South Coast Region**

- Santa Clara
- Santa Ana
- San Diego

### *Zone AG9*

#### **Colorado River Region**

- Coachella
  - Imperial Valley
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**Figure 3-2. Agricultural Regions**

## 3.2 URBAN ZONES

The urban approach to water use efficiency focuses on identifying and implementing conservation and water reuse measures. Conservation measures implemented in some regions will reduce water demands, saving water otherwise lost to saline sinks (for example, the Pacific Ocean). Other regions may not truly save water but can reduce the cost of treatment and distribution, and result in secondary benefits to the environment. Because of the variation in conservation and reuse potential, urban areas were separated into the same regional zones used for agricultural. Although the urban geographic zones may not differ from that used for agriculture, the PSAs in those zones do vary. For instance, conservation or reuse potential in the Sacramento River Region is mainly limited to the Central Basin East PSA. The South Coast Region includes a PSA aptly named "Metropolitan LA," which was excluded from the agricultural zone. The following grouping of PSAs was established to group areas with regional similarities. PSAs are listed beneath each zone designation. Figure 3-3 represents a graphical view of the urban zones.

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URBAN ZONES	
<i>Zone UR1</i> <b>Sacramento River Region</b> <ul style="list-style-type: none"><li>– Central Basin East</li></ul>	<i>Zone UR2</i> <b>Eastside San Joaquin River Region</b> <ul style="list-style-type: none"><li>– Eastern Valley Floor</li><li>– Valley East Side</li></ul>
<i>Zone UR3</i> <b>Tulare Lake Region</b> <ul style="list-style-type: none"><li>– Kings-Kaweah-Tule Rivers</li><li>– Kern Valley Floor</li></ul>	<i>Zone UR4</i> <b>San Francisco Bay Region</b> <ul style="list-style-type: none"><li>– North Bay</li><li>– South Bay</li></ul>
<i>Zone UR5</i> <b>Central Coast Region</b> <ul style="list-style-type: none"><li>– Northern (portion connected to San Luis Reservoir)</li><li>– Southern (portion connected to Central Coast project)</li></ul>	<i>Zone UR6</i> <b>South Coast Region</b> <ul style="list-style-type: none"><li>– Santa Clara</li><li>– Metropolitan LA</li><li>– Santa Ana</li><li>– San Diego</li></ul>
<i>Zone UR7</i> <b>Colorado River Region</b> <ul style="list-style-type: none"><li>– Coachella</li><li>– Imperial Valley</li></ul>	

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Similar to the agricultural zones, not all PSAs are represented in the above designations. For instance, the Sacramento River Region is limited to the PSA containing the Sacramento metropolitan area. Other urban areas in the Sacramento Valley have much smaller population centers. Areas of the Imperial Valley were included because potential conservation savings could be used to offset existing or future Delta demands of the South Coast Region.

PSAs included under each zone were assumed to represent the majority of the populated urban areas that derive their water supplies from the Delta or its tributaries. This assumption is believed to provide the necessary level of detail for determination of potential impacts at the programmatic level.



**Figure 3-3. Urban Regions**